

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An apparatus for aspirating, irrigating and/or cleansing wounds, comprising: characterised in that it comprises

a) a fluid flow path, comprising:

i) a conformable wound dressing, ~~having~~ comprising a backing layer which is capable of forming a relatively fluid-tight seal or closure over a wound and a wound-facing face, and at least one inlet pipe lumen for connection to a fluid supply tube, which passes passing through and/or under the wound-facing face and in communication with at least a fluid reservoir, and and at least one outlet pipe lumen for connection to a fluid offtake tube, which passes passing through and/or under the wound-facing face, wherein a relatively fluid-tight seal or closure is formed over the wound at the point at which the or each inlet pipe lumen and the or each outlet pipe lumen passes through and/or under the wound-facing face forming a relatively fluid-tight seal or closure over the wound, at least one inlet pipe being connected to a fluid recirculation tube, and at least one outlet pipe being connected to a fluid offtake tube; and;

ii) a means for fluid cleansing in communication at least with the outlet lumen having at least one inlet port connected to a fluid offtake tube and at least one outlet port connected to a fluid recirculation tube;

b) ~~a fluid reservoir connected by a fluid supply tube lumen to an integer of the flow path (optionally or as necessary via means for flow switching between supply and recirculation);~~

a fluid recirculation lumen for directing cleansed fluid from the means for fluid cleansing back into the inlet lumen;

e) a device for moving fluid through at least the wound dressing and the means for fluid cleansing, ~~and optionally or as necessary the fluid supply tube;~~

d) means for supplying physiologically active agents to the wound, ~~and~~

e) ~~optionally means for bleeding the flowpath, such that fluid may be supplied to fill the flowpath from the fluid reservoir via the fluid supply tube (optionally or as~~

~~necessary via the means for flow switching) and recirculated by the device through the flow path.~~

2. **(Currently amended)** An apparatus according to claim 1, ~~characterized in that~~ wherein the means for supplying physiologically active agents to the wound comprises the fluid reservoir containing physiologically active components in therapeutically active amounts to promote wound healing.

3. **(Currently amended)** An apparatus according to claim 1, ~~characterized in that~~ wherein the physiologically active agents ~~for supply~~ supplied to the wound are selected from the group consisting of autologous, allogeneic and xenogeneic blood or blood products, platelet lysates, plasma or serum[[:];], natural purified protein or recombinant-produced protein growth factors[[: or]]; natural purified protein or recombinant produced protein cytokines[[:];], materials to achieve the delivery of nucleic acid molecules as active genes [[or]], gene-containing vectors, [[as]] naked molecules, molecules complexed with nucleic acid binding carriers, molecules within liposomes or [[as]] virus vectors[[: or]], and a combination[[s]] thereof.

4. **(Currently amended)** An apparatus according to claim 1, ~~characterised in that~~ wherein the physiologically active agents ~~for supply~~ supplied to the wound are materials that are beneficial in promoting wound healing by removing materials from a wound exudate or by regulating, limiting or inhibiting processes deleterious to wound healing ~~from wound exudate which are~~, wherein physiologically active agents are selected from the group consisting of natural purified protein [[or]], recombinant-produced protein proteinase inhibitors[[:];], inhibitors of inhibitors of angiogenesis[[:];], antioxidants[[:];], free radical scavengers [[or]], degraders[[:];], free radical generators[[: or]] and a combination[[s]] thereof.

5. **(Currently amended)** An apparatus according to claim 1, ~~characterised in that~~ wherein the physiologically active agents ~~for supply~~ supplied to the wound are natural purified protein or recombinant-produced protein debriding agents.

6. **(Currently amended)** An apparatus according to claim 1, ~~characterised in that~~ wherein the physiologically active agents ~~for supply~~ supplied to the wound are selected from the group consisting of nutrients for wound cells, antimicrobials, antifungal agents, antibiotics, antibacterial agents, local analgesics/anaesthetics, [[or]] and a combination[[s]] thereof.

7. **(Withdrawn/Currently Amended)** An apparatus according to claim 1, ~~characterised in that it comprises a~~ wherein the means for fluid cleansing that is comprises a single-phase system, ~~in which the circulating fluid from the wound passes through the means for fluid cleansing and materials deleterious to wound healing are removed, without the circulating fluid coming into direct or indirect contact with another fluid in the means for fluid cleansing configured to remove materials deleterious to wound healing from fluid removed from the wound without brining fluid removed from the wound into direct or indirect contact with a second fluid.~~

8. **(Currently amended)** An apparatus according to claim 1, ~~characterised in that wherein it comprises a~~ the means for fluid cleansing that is comprises a two-phase system, ~~in which the circulating fluid from the wound passes through the means for fluid cleansing and materials deleterious to wound healing are removed, by the circulating fluid coming into direct or indirect contact with another fluid in the means for fluid cleansing configured to remove materials deleterious to wound healing from fluid removed from the wound by bringing fluid removed from the wound into direct or indirect contact with a second fluid.~~

9. **(Currently amended)** An apparatus according to claim 3 ~~8~~, ~~characterised in that wherein in the means for fluid cleansing, the circulating fluid removed from the wound and the other second fluid in the means for fluid cleansing are separated by an integer which is selectively permeable to materials deleterious to wound healing.~~

10. **(Currently amended)** An apparatus according to claim 3 ~~8~~, ~~characterised in that wherein in the means for fluid cleansing, the circulating fluid removed from the wound and the other second fluid in the means for fluid cleansing are separated by an integer which is not selectively permeable to materials deleterious to wound healing, and the other second fluid comprises and/or or is in contact with a material that removes materials deleterious to wound healing.~~

11. **(Canceled)**

12. **(Original)** A method of treating wounds to promote wound healing using the apparatus for aspirating, irrigating and/or cleansing wounds according to claim 1.

13. **(New)** An apparatus according to claim 1, further comprising means for bleeding the fluid flow path to bleed fluid from the recirculation lumen.

14. **(New)** A wound treatment apparatus, comprising:

a wound dressing comprising a backing layer configured to form a relatively fluid-tight seal around at least a portion of a wound;

an inlet lumen in fluid communication with the backing layer, the inlet lumen configured to provide a fluid conduit into the backing layer;

an outlet lumen in fluid communication with the backing layer, the outlet lumen configured to provide a fluid conduit out of the backing layer;

a fluid reservoir in fluid communication with the inlet lumen, the fluid reservoir configured to supply an irrigation fluid into the backing layer, wherein the fluid reservoir comprises an antimicrobial substance; and

a pump configured to move fluid through the inlet lumen, the backing layer, and the outlet lumen.

15. **(New)** An apparatus according to claim 14, wherein the fluid reservoir comprises a physiologically active component.

16. **(New)** An apparatus according to claim 15, wherein the physiologically active component is selected from the group consisting of autologous blood product, allogeneic blood product, xenogeneic blood product, platelet derived growth factor, vascular endothelial growth factor (VEGF), transforming growth factor alpha (TGF α), transforming growth factor beta (TGF β -1, 2, or 3), basic-fibroblast growth factor (b-FGF), epidermal growth factor (EGF), granulocyte-macrophage colony-stimulating factor (GM-CSF), insulin like growth factor-1 (IGF-1), keratinocyte growth factor 2 (KGF2), interleukin 1 β (IL1 β), interleukin 8 (IL-8), tissue inhibitor of metalloproteinases (TIMP 1 to 4), tissue inhibitor of alpha 1-antitrypsin (AAT), aprotinin, α -2-macroglobulin, inhibitor of matrix metalloproteinases (MMPs), neutrophil elastase, thrombospondin, kallistatin, ascorbic acid, glutathione, superoxide dismutase (SOD), and hydrogen peroxide.

17. **(New)** An apparatus according to claim 14, wherein the fluid cleansing mechanism comprises a two-phase system configured to bring fluid from the outlet lumen into direct or indirect contact with a second fluid, wherein the second fluid comprises a physiologically active component.

18. **(New)** An apparatus according to claim 17, wherein the second fluid comprises a protease inhibitor, serine protease inhibitor, 4-(2-aminoethyl)-benzene sulphonyl fluoride

(AEBSF, PefaBloc), N α -p-tosyl-L-lysine chloromethyl ketone (TLCK), ϵ -aminocaproyl-p-chlorobenzylamide, cysteine protease inhibitor, matrix metalloprotease inhibitors, carboxyl (acid) protease inhibitor, anti-inflammatory material to bind or destroy lipopolysaccharides, peptidomimetic, anti-oxidant, 3-hydroxytyramine (dopamine), ascorbic acid (vitamin C), vitamin E, glutathione, chelator, ion exchange, desferrioxamine (DFO), 3-hydroxytyramine (dopamine), peptide, cytokine, bacterial cytokine, α -amino- γ -butyrolactone, L-homocarnosine, and iron III reductant.

19. **(New)** An apparatus according to claim 14, wherein the irrigation fluid comprises an antibacterial derivate of acetic acid.

20. **(New)** An apparatus according to claim 14, wherein the antimicrobial substance is selected from the group consisting of triclosan, iodine, metronidazole, cetrimide, and chlorhexidine acetate.

21. **(New)** An apparatus according to claim 14, wherein the fluid reservoir comprises an antifungal substance selected from the group consisting of sodium undecylenate, chlorhexidine, iodine, and clotrimoxazole.

22. **(New)** An apparatus according to claim 14, further comprising a fluid cleansing mechanism in fluid communication with the outlet lumen, the fluid cleansing mechanism configured to remove materials deleterious to wound healing from fluid in the outlet lumen.

23. **(New)** An apparatus according to claim 22, further comprising a recirculation lumen configured to recirculate fluid from the fluid cleansing mechanism back into the inlet pipe without passing through the fluid reservoir, wherein the fluid recirculation lumen comprises a bleed device configured to bleed fluid from the recirculation lumen to relieve pressure in at least a portion of the apparatus.